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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,426	02/28/2002	Brett Holle	2002P03394US (1505-0112)	3200
7590 09/16/2005			EXAMINER	
Harold C. Moore Maginot, Moore & Bowman 111 Monument Circle, Suite 3000 Bank One Center/Tower Indianapolis, IN 46204-5115			NGUYEN, TAI T	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,426

Applicant(s)

HOLLE ET AL.

Examiner

Tai T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-13 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 5-8, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the first and second feeder lines" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the service disconnect switch" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 10-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loy et al. (US 5,940,009) in view of Kennon et al. (US 5,488,565).

Regarding claims 1 and 10, Loy et al. disclose an apparatus (Fig. 2) for determining tampering in an electricity meter arrangement (100) comprising:

a voltage sense circuit in the form of a voltage sensor (32, Fig. 2) coupled to sense voltage on a first and a second feeder lines (20A, 20B), the voltage sense circuit operable to generate a voltage detection signal (L1, L2, Figure 3) based on the first voltage on the first feeder line and a second voltage on the second feeder line, the voltage detection signal having a characteristic representative of whether line voltage from the electrical power lines is present on the first and second feeder lines; and

a processing circuit (102) operably connected to the voltage sensor to receive the voltage detection signal (Figures 2 and 3), the processing circuit operable to selectively generate a tamper flag based on whether the characteristic of the voltage detection signal indicates the presence of voltage on the first and second feeder lines when a service disconnect switch (104) has disconnected the electrical power lines from the first and second feeder lines (see abstract).

Loy et al. disclose the instant claimed invention except for the voltage sensing circuit including an isolation mechanism configured to isolate the processing circuit from the first and second feeder lines. Kennon et al. teach a tamper detection system comprises a voltage sensor (102) coupled between a first and a second feeder lines (12) and a microprocessor (28), wherein the voltage sensor including an isolation mechanism in the form of an opto-isolator (104) configured to isolate the processing circuit from the first and second feeder lines (figure 4, col. 12, lines 5-21). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the isolation mechanism as taught by Kennon et al. in the system as disclosed by Loy et al. for the purpose of isolating the microprocessor from the feeder

lines and signaling the microprocessor the presence of voltage detected by the voltage sensor.

Regarding claims 2 and 3, Loy et al. discloses that the voltage sensor being operable to generate the voltage detection signal having a first magnitude when line voltage is present on the first and second feeder lines (indicated as high in either L1 Logic Input or L2 Logic Input) and having a second magnitude (indicated as low in either L1 Logic Input or L2 Logic Input) when line voltage is not present on the first and second feeder lines (also see col. 4, lines 15-18).

Regarding claim 4, Loy et al. disclose a voltage sensor includes a voltage divider (col. 4, lines 9-19).

Regarding claims 11 and 16, Loy et al. disclose an apparatus (Fig. 2) for determining tampering in an electricity meter arrangement (100) comprising:

- a housing contained metering circuit (100 in Fig. 2);

- a service disconnect switch (104) operable to controllably disconnect electrical power lines (12) from a load (14), the load including at least first and second feeder lines (20C & 20D);

- a voltage sense circuit in the form of a voltage sensor (32, figure 2 or 110, figure 3) coupled to sense voltage on the first and second feeder lines, the voltage sense circuit operable to generate a voltage detection signal (either L1 Logic Input or 1.2 Logic Input, see Fig. 3) based on a first voltage on the first feeder line and a second voltage on the second feeder line, the voltage detection signal having a characteristic representative of whether line voltage from the electrical power lines is present on the

first and second feeder lines; and a processing circuit (microprocessor 102) operably connected to the voltage sense circuit (110) to receive the voltage detection signal (see Figs. 2 and 3), the processing circuit operable to selectively generate a tamper flag based on whether the characteristic of the voltage detection signal indicates the presence of voltage on the first and second feeder lines when the service disconnect switch has disconnected the electrical power lines from the first and second feeder lines (see abstract).

Loy et al. disclose the instant claimed invention except for the voltage sensing circuit including an isolation mechanism interposed between the at least one feeder line and an output to provide electrical isolation therebetween. Kennon et al. teach a tamper detection system comprises a voltage sensor (102) coupled between a first and a second feeder lines (12) and a microprocessor (28), wherein the voltage sensor including an isolation mechanism in the form of an opto-isolator (104) configured to isolate the processing circuit from the first and second feeder lines (figure 4, col. 12, lines 5-21). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the isolation mechanism as taught by Kennon et al. in the system as disclosed by Loy et al. for the purpose of isolating the microprocessor from the feeder lines and signaling the microprocessor the presence of voltage detected by the voltage sensor.

Regarding claims 12-13, refer to claims 2-3 above.

5. Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennon et al. (US 5,488,565).

Regarding claims 17 and 20-21, Kennon et al. disclose a method (abstract) comprising:

a) disconnecting, using a service disconnected switch (20, at least one feeder line of a load from at least one electrical power line (see power line 12, 240V AC and LOAD at the upper right corner of Fig. 4), the service disconnect switch disposed within a LMT (load management terminal) housing (see col. 1, lines 59-61, col. 4, lines 24-26 and col. 11, lines 46-48);

b) employing a voltage sense circuit (102, see Fig. 4) that is operably connected to the at least one power line (12) to generate a voltage detection signal having a characteristic representative of whether voltage from the electrical power lines is present on the at least one feeder line (col. 11, line 39 to col. 12, line 20);

c) providing the voltage detection signal to an output that is electrically isolated from the at least one feeder line using optical isolation (104, see Fig. 4);

d) employing a processing circuit (28) to receive the voltage detection signal, calculating and generate a tamper flag if the characteristic of the voltage detection signal indicates the presence of voltage on the at least one feeder line (col. 11, line 39 to col. 12, line 36).

Kennon does not disclose that the LMT housing includes electricity metering, incorporating/combining electricity metering in the LMT housing would have been obvious to one of the ordinary skilled in the art because the LMT of Kennon concerns

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appliance such as thermostat (see Fig. 1) which requires power to operate and such requirement requires electricity metering for billing purpose and therefore it falls into the electricity metering industry.

Regarding claims 18 and 19, since voltage sense circuit (102) of Kennon is capable of detecting the presence and absence of voltage to the load, the voltage detection signal at output 104 to the microprocessor 28 would have two different levels indicating the presence and the absence states.

Allowable Subject Matter

6. Claims 5-8 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Germer et al. (US 6,605,937) and Ley (US 4,359,684).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai T. Nguyen whose telephone number is (571) 272-2961. The examiner can normally be reached on Monday-Friday from 7:30am-5:00pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tainguyen', with a long horizontal line extending to the left.

Tai T. Nguyen
Examiner
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September 14, 2005